

BIRD ECTOPARASITES FROM NORFOLK ISLAND

By Bernard C. Nelson

(McMaster Animal Health Laboratory, C.S.I.R.O., Glebe, N.S.W. 2037)

The Trustees of the Australian Museum sponsored an expedition to Norfolk Island, which lies approximately 1,000 miles northeast of Sydney, Australia, from 16 November to 1 December 1968 to study its avian and insectan fauna. Ectoparasites were collected from eight species of birds and in addition from two species of birds, the Grey Noddy and Sooty Tern, from Philip Island, which lies approximately five miles south of Norfolk Island.

The following birds and their ectoparasites are reported herein:

- Pterodroma cookii nigripennis* (Rothschild, 1893). Black-winged Petrel.
 Mallophaga (Menoponidae): *Longimenopon* sp. 1 ♂, 2 ♀.
 Mallophaga (Philopteridae): *Halipeurus accentor* Edwards, 1961. 2 ♂, 1 ♀, 5N.
Trabeculus hexacon (Waterston, 1914). 1 ♀.
 Acarina (Pterolichidae): *Zachvatkinia puffini* (Buchholz, 1869). 1 ♂.
Sula dactylatra personata Gould, 1846. Masked Gannet.
 Acarina (Argasidae): *Ornithodoros capensis* Neumann, 1901. 5 larvae.
Sterna fuscata Linnaeus, 1766. Sooty Tern.
 Mallophaga (Philopteridae): *Quadriceps birostris* (Giebel, 1874). 3 ♂, 2 ♀, 1N.
Procelsterna cerulea albivitta Bonaparte, 1856. Grey Noddy.
 Mallophaga (Menoponidae): *Actornithophilus ceruleus* (Timmermann, 1954). 2 ♂, 3 ♀, 1N.
 Mallophaga (Philopteridae): *Quadriceps hopkinsi* Timmermann, 1952. 3 ♂, 3 ♀.
Gygis alba royana Mathews, 1912. White Tern.
 Mallophaga (Philopteridae): *Saemundssonina* sp. 2 ♀.
Halcyon sancta norfolkiensis Tristram, 1885. Sacred Kingfisher.
 Mallophaga (Philopteridae): *Alcedoecus* sp. 10 ♂, 8 ♀.
Pachycephala pectoralis xanthoproctor Gould, 1838. Norfolk Island Whistler.
 Acarina (Analgesidae): *Hemialges rennellianus* Gaud, 1962. 1 ♂, 4 ♀, 1N.
Turdus philomelos Brehm, 1831. Song Thrush.
 Mallophaga (Philopteridae): *Philopterus turdi* (Denny, 1842). 1N.
Sturnus vulgaris Linnaeus, 1758. Starling.
 Mallophaga (Philopteridae): *Sturnidoecus sturni* (Schränk, 1776). 9N.
 Acarina (Pterolichidae): *Pteronyssoides truncatus* (Trouessart, 1885). 1 ♀.

Discussion.—Three of the above Mallophaga are not identified to species. The two females of *Saemundssonina* from *Gygis alba* cannot be identified further without males. The two populations referred to respectively as *Alcedoecus* sp. from *Halcyon sancta* and *Longimenopon* sp. from *Pterodroma cookii nigripennis* are most certainly new species, but descriptions will not be given until these specimens have been compared with species already described in each of the respective genera. Specimens of *Longimenopon* are of interest as Clay (1962) has stated that they are rare in collections and has suggested that members of this genus probably live inside quill feathers.

Trabeculus hexacon from *P. cookii nigripennis* and *Quadriceps hopkinsi* from *Procelsterna cerulea* each constitutes a new host record for these lice. *T. hexacon* has been recorded previously from several hosts (Timmermann, 1959). Specimens of *Quadriceps* from *P. cerulea* were compared with those from *Anous minutus*, the type host of *Q. hopkinsi*, and found to be similar.

Timmermann (1954) described *Actornithophilus ceruleus* from five specimens removed from two skins of *Procelsterna cerulea*. Clay (1962) compared the

type series of *A. ceruleus* with specimens taken from two skins of *Anous minutus*, and found that the two series appeared to be inseparable. She concluded that either *A. ceruleus* occurs on both *Procelsterna* and *Anous* or the host record of the type material is incorrect. I have compared specimens from *Procelsterna cerulea* from Norfolk Island with those from *Anous minutus* from Heron Island, Capricorn Group, Queensland. The two populations can be distinguished by differences in the setal pattern on the abdominal tergites, a character regarded as of specific rank by Clay. Neither Timmermann (1954) nor Clay (1962) described or figured the setal pattern of the abdominal tergites for *A. ceruleus*. It is impossible therefore to determine whether the population from *Anous* or *Procelsterna* should be referred to *A. ceruleus* without examination of the type series, and consequently the identification herein is provisional.

The specimens of *Ornithodoros capensis* comprise the first record of this tick from Norfolk Island. Amerson (1968) has recorded *O. capensis* from several hosts, including *Sula dactylatra*, from 32 islands throughout the world.

Summary.—Eleven species of Mallophaga, three species of feather mites and one species of tick were taken from birds on Norfolk Island. Four new host records of Mallophaga are reported of which two are probably undescribed species, and the confused status of the type host of *Actornithophilus ceruleus* is discussed. *Ornithodoros capensis* is recorded from Norfolk Island for the first time.

Acknowledgments.—I wish to thank H. J. de S. Disney, Curator of Birds at the Australian Museum, for collecting the ectoparasites, and C. N. Smithers, Curator of Insects and Arachnids at the same institution, for allowing me to study the specimens in his charge. M. D. Murray, McMaster Laboratory, C.S.I.R.O., criticized the manuscript and offered valuable suggestions. This investigation was supported in part by a National Institutes of Health Fellowship No. 1-F2-GM-36, 584-01 from the National Institute of General Medical Sciences.

REFERENCES

- Amerson, A. B. Jr., 1968.—Tick distribution in the Central Pacific as influenced by sea bird movement. *J. Med. Entomol.*, 5(3):332-339.
- Clay, T., 1962.—A key to the species of *Actornithophilus* Ferris with notes and descriptions of new species. *Bull. Brit. Mus. (Nat. Hist.) Entomol.*, 11(5):191-244.
- Timmermann, G., 1954.—Studien über Mallophagen aus den Sammlungen des Britischen Museums (Nat. Hist.), London. II. Das Amblycerengenus *Actornithophilus* Ferris, 1916. *Ann. Mag. Nat. Hist.*, (12) 7:829-841.
- , 1959.—Taxonomie und hospitale Verbreitung der Mallophagengattung *Trabeculus* Rudow, 1866. *Zeit. f. Parasit.*, 19:485-502.
-